

## ABSTRACT OF THE DISCLOSURE

The invention includes methods of forming films over substrates. A substrate is provided within a reaction chamber, and a mixture is also provided within the chamber. The mixture comprises a precursor of a desired material within a supercritical fluid. The precursor is relatively reactive under one set of conditions and is relatively non-reactive under another set of conditions. The precursor and supercritical fluid mixture is initially provided in the chamber under the conditions at which the precursor is relatively non-reactive. Subsequently, and while maintaining the supercritical state of the supercritical fluid, the conditions within the reaction chamber are changed to the conditions under which the precursor is relatively reactive. The precursor reacts to form the desired material, and at least some of the desired material forms a film on the substrate.